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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Co-channel Protection
Criteria for Part 90,
Subpart S Stations
Operating above 900 MHz

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PR Docket No. 93-60

To: The Commission

REPLY COMMENTS

FLEET CALL, INC.

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I. INTRODUCTION

Fleet Call, Inc. ("Fleet Call"), pursuant to Section 1.415 of the Rules and Regulations of the Federal Communications Commission (the "Commission"), respectfully submits these Reply Comments in response to the Notice of Proposed Rulemaking (the "Notice") in the above-captioned proceeding.^{1/}

In the Notice, the Commission proposed revising the protection criteria and distance separations for co-channel stations operating above 800 MHz in all Part 90, Subpart S service pools. It proposed adopting a 40/22 dBu co-channel interference standard for all such systems by extending the existing 40/22 dBu Table in Section 90.621(b) of the Rules for Specialized Mobile Radio ("SMR") systems to non-SMRs as well.^{2/} In doing so, however, it proposed

^{1/} 8 FCC Rcd 2454 (1993).

^{2/} In 1991, the Commission permitted SMR systems to be located closer to co-channel stations than the then-required standard 113 km (70 miles), without waiver, through either consensual short spacing or compliance with the short-spacing table in Section 90.621(b) of the Rules.

a revised Table that provides less interference protection to existing low power stations from co-channel high power systems, potentially degrading the performance of advanced SMR systems using multiple low power base stations.

Nearly all of the commenters support having the same interference protection separation criteria for all 800 and 900 MHz systems operating in the Part 90. Subpart S service pools.

Table was only recently adopted,^{6/} and is being relied on to design highly efficient digital SMR systems. It would be premature and contrary to the public interest to precipitously amend it at this time.

II. DISCUSSION

A. The Proposed Revisions to the 40/22 dBu Table Will Impede Development of Wide-Area Digital SMR Systems

As the second largest licensee and operator of 800 MHz and 900 MHz SMR systems, Fleet Call has extensive experience providing high quality private land mobile communications in the most frequency-congested metropolitan areas in the United States. Fleet Call was the first to request and receive authorization to implement advanced, wide-area digital voice mobile communications systems in the private land mobile radio industry.^{7/} Through these Enhanced Specialized Mobile Radio ("ESMR") systems, Fleet Call is pioneering short spacing in the SMR industry to realize previously-unachievable improvements in spectrum efficiency, customer capacity and uniform coverage.

Fleet Call's first ESMR systems will be placed in operation in Los Angeles in August. Fleet Call's ESMR operations will generate the first empirical data concerning the reliability and accuracy of the interference protection provided by the current 40/22 dBu standard for multiple

^{6/} Amendment of Part 90 of the Commission's Rules to Permit the Short-Spacing of Specialized Mobile Radio Systems Upon Concurrence from Co-Channel Licensees, 6 FCC Rcd 4929 (1991), aff'd, 7 FCC Rcd 6069 (1992). In adopting the existing co-channel separation

base station wide-area SMR systems using digital transmission multiplexing -- both to co-channel radio systems and from them to the ESMR system itself.

Fleet Call relied on and is currently relying on the existing co-channel separation standards -- confirmed by the Commission less than one year ago -- in designing its ESMR frequency reuse plans and making site selections in four of its markets. There are nearly a dozen other granted or pending applications for advanced SMR systems employing digital modulation techniques, frequency reuse and a mixture of high and low power base stations to bring unprecedented customer capacity (*i.e.*, spectrum efficiency), transmission quality and enhanced services to customers. These applicants and licensees also relied on the existing 40/22 dBu Table to design their systems and develop associated economic, financing and marketing plans. Revising the recently-adopted Table as proposed herein, or as suggested by various commenters, would impede implementation of the advanced SMR systems that represent SMR's future in the competitive land mobile communications industry.^{8/}

B. The Comments Indicate No Consensus Concerning An Optimum Co-Channel Separation Standard

This proceeding responds to the desire of above-800 MHz non-SMR licensees to obtain the increased protection of the 40/22 dBu interference standard as opposed to the lesser 40/30 dBu standard currently provided in the Commission's Rules.^{9/} The Commission sought

^{8/} New digital SMR systems will achieve spectrum efficiency unthinkable only a few years ago. The conservative approach of the current Table is warranted at this developmental stage of these advanced SMR systems. Moreover, no commentor has demonstrated that the existing rules are unworkable or unreasonably restrict spectrum reuse.

^{9/} Petition for Rulemaking of the National Association of Business and Educational Radio, Inc. ("NABER"), RM - 8028, filed March 6, 1992.

comments, inter alia, on whether its current propagation prediction methodology (R-6602 curves) is adequate and whether a 40/22 dBu standard would prevent co-channel interference from mobile units to short-spaced base stations.

There is no consensus concerning the optimum co-channel separation standard nor as to how that standard should be implemented. For example, the major trade associations representing the above-800 MHz Private Radio Services and Motorola, Inc. support using a 40/10 dBu standard instead of 40/22 in combination with a markedly different use of the R-6602 curves to predict interference.^{10/} In separate comments, however, Motorola states that more sophisticated propagation analysis is necessary to understand and account for the interference ramifications of new digital modulation schemes and the possible impact of "multiple interferers" in an increasingly mixed environment of high and multiple low power SMR stations.^{11/}

Other commenters state that the Commission's R-6602 curves do not account for terrain variances and are thus inaccurate in many circumstances.^{12/} Federal Express finds the R-6602 curves the "lesser of two evils" (inaccuracy vs. the need for administrative simplicity).^{13/} One public safety organization suggests that a 40/5 dBu standard be used when a public safety radio system is short spaced, with the 40/22 dBu standard sufficient for co-

^{10/} Joint Comments at pp. 9-11.

^{11/} See Comments of Motorola, Inc. at pp. 5-6. Motorola states that changes in the private land mobile industry have altered the "operating paradigms" the industry has relied on for predicting interference protection and requires a more comprehensive review of the Commission's existing propagation prediction models than has been proposed in this proceeding.

^{12/} See Comments of the E.F. Johnson Company at pp. 5-6; Comments of the Utilities Telecommunications Council ("UTC") at pp. 5-7. UTC recommends that the current propagation prediction methodology (R-6602 curves) be replaced.

^{13/} Comments of Federal Express Corporation at p. 2.

channel commercial systems.^{14/} Commenters also state that the 40/22 dBu standard may not prevent interference to systems with extensive portable mobile units and that additional protection to and from mobile units may be necessary as low power SMR system

any revisions of the Commission's co-channel separation requirements until more definitive data and reliable propagation methodologies can be fully evaluated and implemented.^{18/} To do otherwise risks severe damage to the development of digital, wide-area SMR systems.^{19/} Even the Joint Commenters admit that digital technology creates a different engineering environment in which the proposed separation standards may be inappropriate and that further study is necessary.^{20/}

C. The Commission Should Defer Any Changes to the 40/22 Table Pending Adopting Revised Rules For Wide-Area SMR Licenses

Subsequent to the Notice in this proceeding, the Commission initiated a rulemaking proceeding to create an Expanded Mobile Service Provider ("EMSP") license for wide area (MTA or BTA) SMR systems.^{21/} Under the EMSP proposal, compliance with co-channel interference standards and resultant geographic separations for existing systems will be an integral aspect of the authority granted by an EMSP license. An EMSP licensee could reuse its constructed and operational frequencies throughout the MTA or BTA, subject to providing co-channel protection pursuant to Section 90.621(b) to existing co-channel systems. Thus, the EMSP license would be limited by the interference protection for existing systems required by

^{18/} This is further demonstrated by the fact that some commenters would require using a specific propagation model, such as the Longley-Rice model, while others disagree. For the reasons discussed herein, Fleet Call opposes adopting any specific propagation model at this time.

^{19/} In addition, given the dynamic development of the SMR industry, Fleet Call opposes limiting mobile ERP in SMR systems.

^{20/} Joint Comments at p. 21.

^{21/} EMSP Notice, supra n. 5.

the 40/22 dBu Table.22/

Similarly, the Commission seeks comment on how to prevent co-channel interference at the border of two adjoining EMSP licensed areas. The alternatives expressed therein would affect not only interference at the border, but could also affect the interference protection of the individual stations within the EMSP license area. As noted above, determination of appropriate co-channel interference separation requirements are an integral part of the EMSP rulemaking.23/

Given this, the public interest requires deferring any revision of the existing 40/22 Table to the EMSP proceeding. This would assure that any revision of the co-channel interference standards is coordinated with and consistent with the parameters of the prospective EMSP licenses. It would also permit additional time to begin to evaluate the "real world" experience of digital SMR systems vis-a-vis co-channel interference.



